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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/176,315	10/22/1998	SHIGENOBU MAEDA	0057-2362-2Y	8038

22850 7590 05/20/2002

OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC  
FOURTH FLOOR  
1755 JEFFERSON DAVIS HIGHWAY  
ARLINGTON, VA 22202

EXAMINER

CRANE, SARA W

ART UNIT PAPER NUMBER

2811

DATE MAILED: 05/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/176,315

Applicant(s)

MAEDA ET AL.

Examiner

Sara W. Crane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 17 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 18 is/are rejected.
- 7) ☒ Claim(s) 6-16 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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In view of arguments as presented in the Appeal Brief filed on 05 February 202, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Claim Rejections - 35 USC § 103***

Claims 1-5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu et al. (High-Speed 0.5  $\mu\text{m}$  . . .) in view of Agari (JP 6-224302) and Chen et al., and also in view of Blake et al., Gunning, and Masuda et al. The rejection is as set forth in the Office action of 20 December 2000. The three additional references are relied upon for definitions, and for teachings which would be well-known to one having ordinary skill in the art, in response to arguments set forth in the Brief.

Chen et al. refers to the "body" of a transistor. Blake et al. teaches the definition of a transistor "body." See, for example, column 1, lines 55-58 ("the undepleted volume within the body region underlying the gate electrode"). See also references to the "body

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region" in column 5, lines 23, 33, and 37, and 53-60). So when Chen et al. refers to the "body" of the transistor, one of ordinary skill would know that such a reference includes the region underlying the gate electrode of the transistor. So, with respect to Chen region 20, called the "body link" (column 7, line 32), the examiner understands this to mean that Chen region 20 is what links the Chen transistor body to the body contact 39 (as shown in Chen figure 3). The Brief seems to assume that Chen region 20 is somehow unrelated to the Chen transistors.

Applicant appears to argue that the prior art does not recognize a gate capacitance, or that the prior art does not recognize the discharge of a gate-to-channel capacitance through substrate resistance. This is taught explicitly at Gunning column 7, lines 5-10. Masuda et al. teaches at column 2, lines 40-47, various known capacitances associated with a MOS transistor. In particular, gate-to-substrate capacitance is taught at lines 43-44. Note that the Chen teaching at column 7, lines 30-33, refers to the total RC time constant. The total RC time constant is the sum of all contributing RC time constants, as explained in the Agari reference. The examiner reasons that, if the total RC time constant is less than any particular design constraint, then each individual time constant must also necessarily be less than that design constraint. One need not even know what all of the capacitive contributions to the total time constant are, but the Gunning and the Masuda references teach explicitly that gate-to-substrate capacitance is known.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (703) 308-4894.

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The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist, whose telephone number is (703) 308-0956.



Sara W. Crane  
Primary Examiner  
Art Unit 2811



**TOM THOMAS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**